

Flight Information Services Data Link (FISDL)



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**NASA Weather Accident Prevention
Project Review**

June 7, 2001

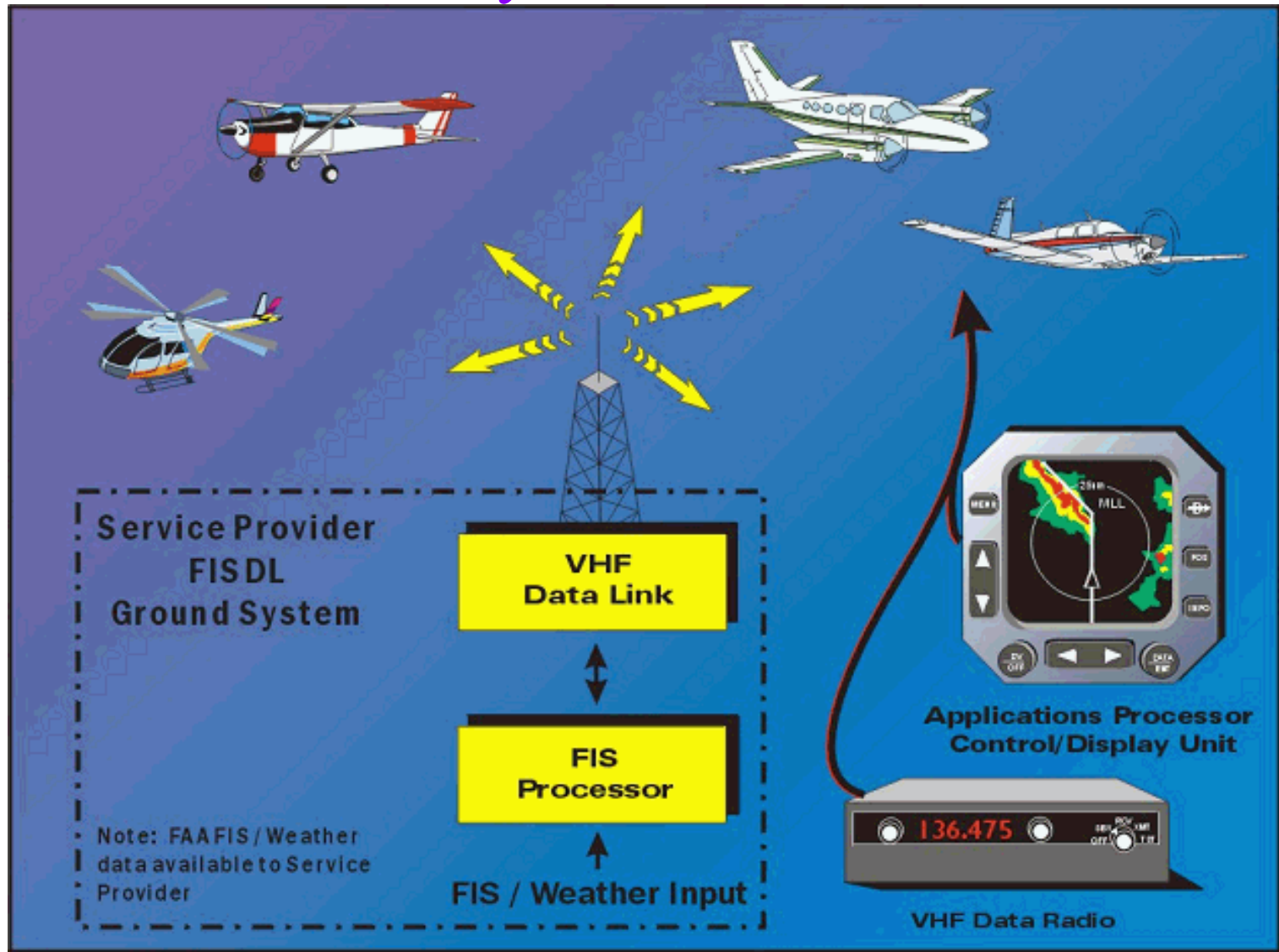
FIS Policy Implementation

- FAA published Airborne FIS Policy Statement based on industry petition through the GA Coalition:

The FAA's goal "... is to use digital data link to deliver information to the pilot ... and will use the private sector's FIS capabilities ... to bring FIS services and products to the market place quickly and efficiently."

- FAA signed Government-Industry Project Performance Agreements (G-IPPAs) with two FISDL Service Providers
 - ARNAV Systems, Inc; Puyallup, WA
 - Honeywell International, Inc; Olathe, KS

FISDL System Overview



FISDL Cockpit Display



Unique G-IPPA Provisions

- ➔ Competitive strategy with two FISDL Service Providers designed to use “market pressure” to stimulate and control quality and cost of FISDL services
- ➔ No system specifications; rather based on:
 - FAA Statement of Objectives, and
 - SOW submitted by ARNAV and Honeywell
- ➔ FAA provides access to 4 VHF channels (136 MHz “protected” spectrum)
- ➔ ARNAV and Honeywell each provide independent system infrastructure and service at no cost to FAA

Key Provisions: *FAA Commitments*

- Five year agreement with opportunity for renewal
 - Access to 4 VHF channels (136 MHz “protected” spectrum) with spectrum engineering support
 - Access to FIS/Wx data within FAA systems; these data are also available to all other vendors as well
- Publish ACs, other publications, and necessary standards
- Sponsor studies to develop applications/benefits & NAS changes
- Evaluate implementation of GA Automet (TAMDAR / E-PIREPs)
 - Includes evaluation/validation of operations concepts and procedures for national deployment of downlink and possible crosslink of aircraft derived weather data from commuter, and low-altitude general aviation operations

Key Provisions: *Provider Commitments*

- System infrastructure and service at no cost to FAA
 - Full national coverage (CONUS + Hawaii; Alaska Optional)
 - Access from at least 5000' to 17,500'; sfc to 45,000' desired
- Products designed for aviation use and based on approved data sources
 - Conform to guidelines (ICAO, RTCA, SAE G10) for cockpit display
 - Basic products at no fee (METAR/SPECI, TAF/AMEND TAF, SIGMET, Conv SIGMET, AIRMET, PIREPs, Alert Wx Watches)
 - Valued-added products for fee
- Education/training materials for pilot users and FAA
- Archive all broadcast transmissions for at least 15 days
- Quality assurance that addresses system risks and user concerns

Implementation Status

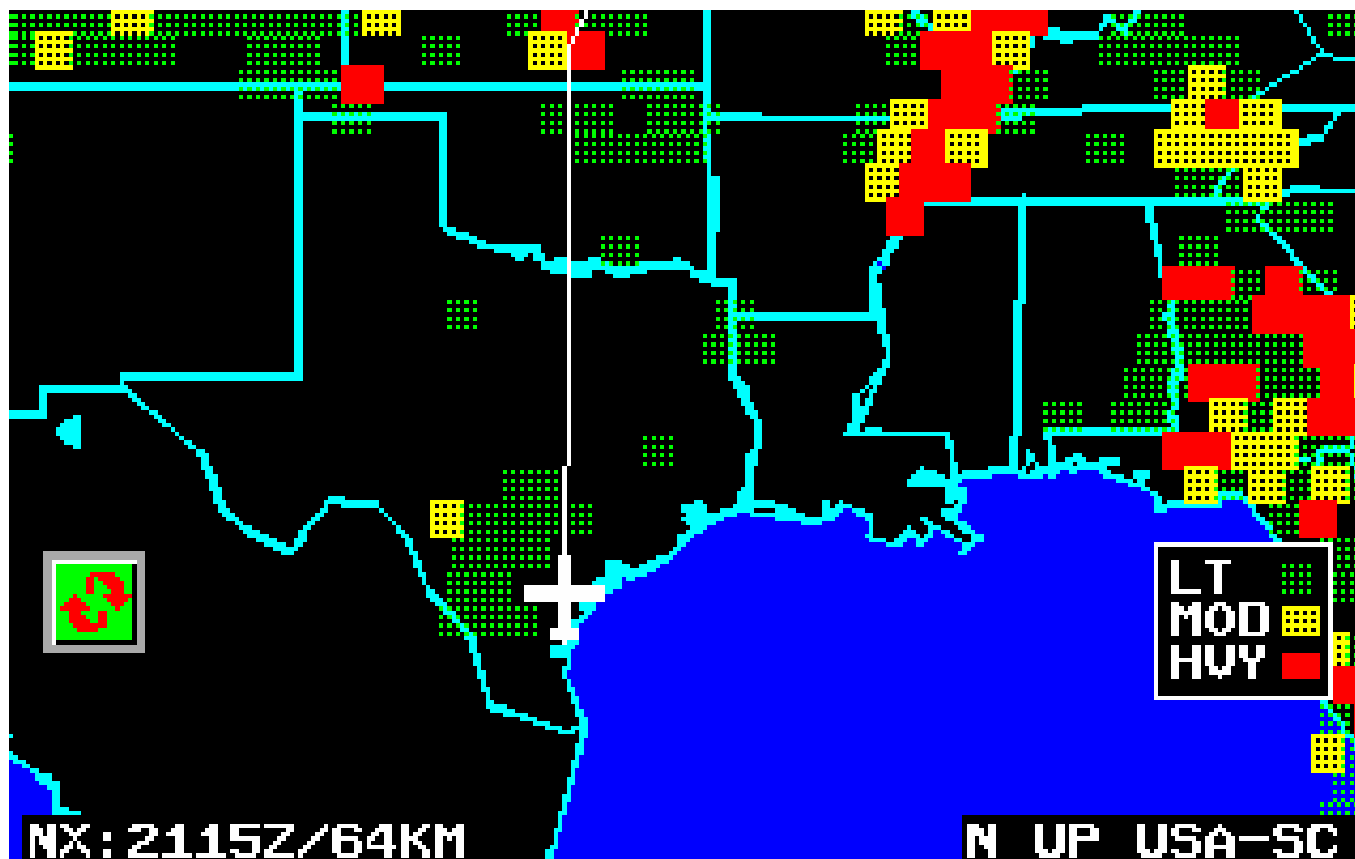
- ➔ Product review/approval procedures for value-added FISDL products established
 - ARW-200 (Weather Standards) Team Lead
 - Initial products (ARNAV and Honeywell) have been reviewed and accepted
- ➔ AIM Revision including FISDL overview in Section 7 published
- ➔ Advisory Circulars drafted by Flight Standards and Aircraft Certification
- ➔ FIS-B MASPS published by RTCA/SC-195
 - DO-267, March 27, 2001
 - Provides communications protocols and presentation guidelines for FIS digital broadcast and cockpit display

Implementation Status (Cont'd)

- ➔ ARNAV achieved operational status with GMSK data radio technology (July 2000)
 - TSO and STC have been issued

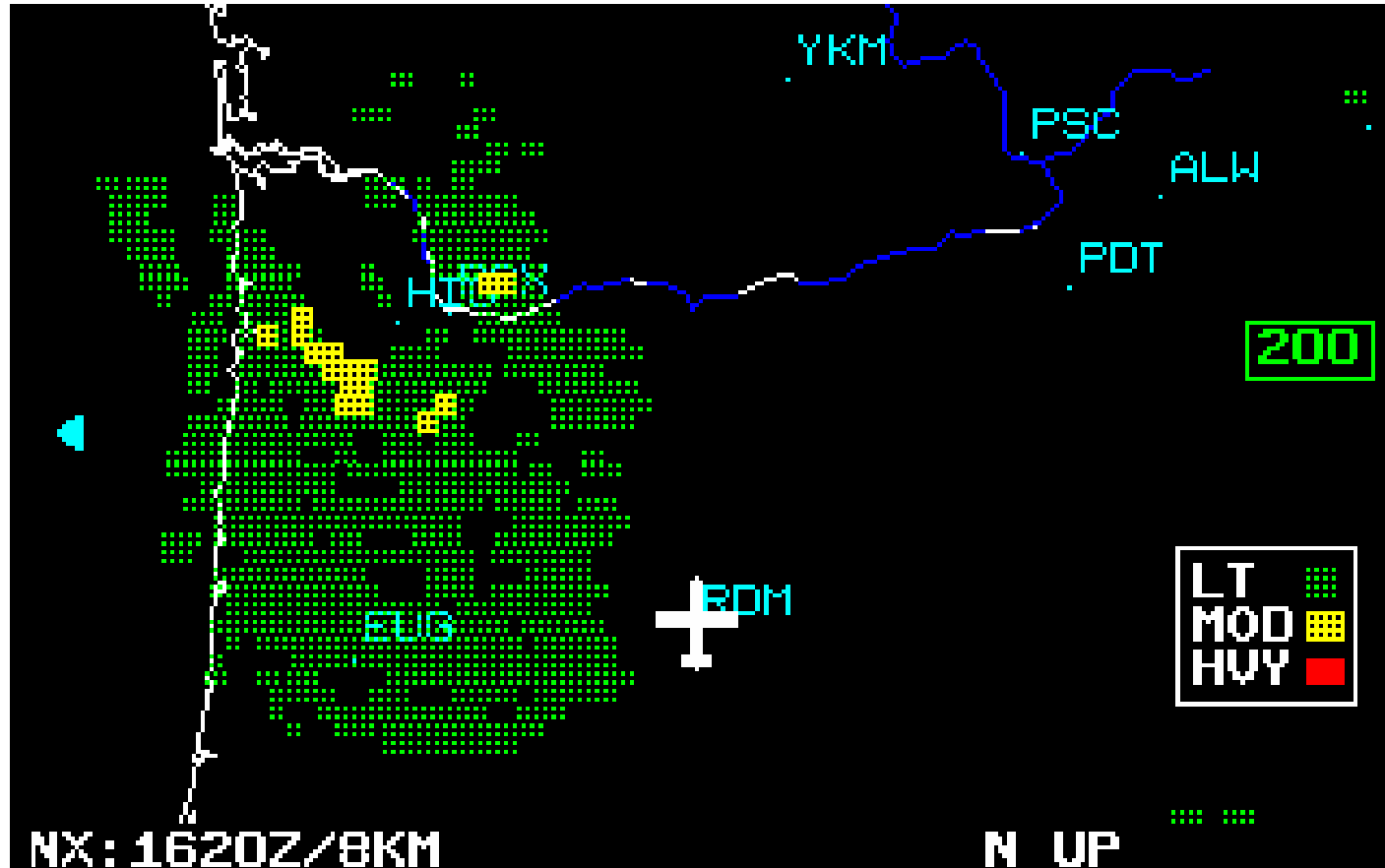
- ➔ Honeywell developing VDL Mode 2 data radio technology.
 - IOC of ground system scheduled for June 2001
 - Radio certification by 4th Quarter 2001

FISDL Examples - ARNAV



Regional NEXRAD

FISDL Examples - ARNAV



200 Nautical Mile NEXRAD

FISDL Examples - ARNAV

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POSITION IS N46°55.42 W120°30.49
METAR ICAO ZULU      WIND      VISIBILITY
METAR KPWT 222215Z AUTO 20011G19KT
10SM FEW001 SCT017 BKN060 08/06 A2975
METAR KTCM 222159Z RTD 19020G25KT 5SM
-R A FEW020 BKN030 OVC070 10/07 A2977
METAR KBF1 222153Z 17015G24KT 8SM RA
FEW022 SCT030 OVC038 09/07 A2974
METAR KSEA 222156Z 21013KT 7SM RA
SCT019 BKN025 OVC030 08/07 A2975
EXIT
PRESS ANY KEY
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Full Text METAR Report